



ENTERED

PCT10

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/070,496

DATE: 08/14/2002 P.6
TIME: 09:06:05

Input Set : A:\9013-44.ST25.txt

Output Set: N:\CRF3\08142002\J070496.raw

```

3 <110> APPLICANT: University of Glasgow
4     Davies, Roger W.
5     Kaiser, Kim
6     Yang, Ming Yao
8 <120> TITLE OF INVENTION: ESSENTIAL GENES AND ASSAYS RELATING THERETO
10 <130> FILE REFERENCE: 9013-44
12 <140> CURRENT APPLICATION NUMBER: US 10/070,496
13 <141> CURRENT FILING DATE: 2002-03-07
15 <150> PRIOR APPLICATION NUMBER: PCT/GB00/03444
16 <151> PRIOR FILING DATE: 2000-09-06
18 <160> NUMBER OF SEQ ID NOS: 902
20 <170> SOFTWARE: PatentIn version 3.1
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 131
24 <212> TYPE: DNA
25 <213> ORGANISM: Drosophila melanogaster
27 <400> SEQUENCE: 1
28 gcaaccatggtt ttcagttccc cagtttgtca gcgatgccc taccatgcgg atgtgctcgc      60
30 ggattgattt cgactcgaac ttcggctccg ttttcgtctt ttaacgtaaa tcccgtagca      120
32 aaaagttgaa t                                     131
35 <210> SEQ ID NO: 2
36 <211> LENGTH: 345
37 <212> TYPE: DNA
38 <213> ORGANISM: Drosophila melanogaster
40 <400> SEQUENCE: 2
41 ggcgaaagta tccgcagtac cgagtgaatc agctgttcgc ccagcaaaag caaaacaaac      60
43 agccgaacga gagagtgcga gaaaaagtgc tctctccact ctgcgttggt ccgcgagtg      120
45 gtgagcgtgt gtgtaaaaat agcagtgga aggggattcc caaaatataa acaaaagttc      180
47 gtgccactcg agttctgtcc gcccatataag aaaccctcgc cgacagtcac tcccaccgct      240
49 gacgagtgtg aacaatgcac ttctaaccgt aaacatattc ccaatctttc gaaggaaatt      300
51 ataccgagtc ggtgaccga gggaaatccc agaacaattg aattc                      345
54 <210> SEQ ID NO: 3
55 <211> LENGTH: 354
56 <212> TYPE: DNA
57 <213> ORGANISM: Drosophila melanogaster
59 <400> SEQUENCE: 3
60 tccgggactg aagctgaaaa ttctggccaa ggtatataac ggtacagagc cgaggagcgg      60
62 agagagccag agccgagcag cagccgagag agagcgtaag ggagagagtg ggcgacgcga      120
64 gttctttatg atggaatttg tgttttttgg gcagcatggc gagcatcctt ttaccaacac      180
66 cctcgcaaa aggacatacg gaaaaacggg ctggcgctgt gtgtgtgcag ccgaaaatgt      240
68 gctggcagcg gaacttaatg gatgaatatg aatgaaacgc cgcaacagtc caattgggct      300
70 agggctgggg ggaggggcag ggcgattttt gtgcaagggt gctgggggga attc          354
73 <210> SEQ ID NO: 4

```

RAW SEQUENCE LISTING

DATE: 08/14/2002

PATENT APPLICATION: US/10/070,496

TIME: 09:06:05

Input Set : A:\9013-44.ST25.txt

Output Set: N:\CRF3\08142002\J070496.raw

```

74 <211> LENGTH: 607
75 <212> TYPE: DNA
76 <213> ORGANISM: Drosophila melanogaster
78 <400> SEQUENCE: 4
79 ccctaaagcg actttgtgca caattcgcaa aaaattaaga ctaaagtaaa gtaaaaagta      60
81 agaaagtaaa cttcgccaccg ctccatataa atttaaccgc tgcttgacaa ggatcaactg      120
83 cgaacatgga tctcagtggc ccacaaactc tgaacaacat acttcagccc gacgagttga      180
85 aactcgtgcc ggaagacgtc cagaagaaat tgtcggagta catcaacaat ttctcagatg      240
87 agtactgcaa gaaccgtgcg gccgccaatc ggttgggtaa gtttttatat ttgtatatat      300
89 actaaaatgc gccatatitt gcaaataacc ctttatttgc atgcgtatgc ttttacctcc      360
91 aactttgcgg cgtttaccgg ctccagatacc gcttcttgta ataagcaatc cgcgactgta      420
93 tggtttctag cgtggtaaac actcttgccg catttacata tttttgtata gaaattaaat      480
95 ataaaattcc gggttggtgc aattaaaaac aatggctgct gcagcaacat tattttcctt      540
97 ataatttcac ctaccggtgt ggtacactgg ccggcatttt ccaccaaaca gtgattagtc      600
99 cgagttt                                         607

102 <210> SEQ ID NO: 5
103 <211> LENGTH: 585
104 <212> TYPE: DNA
105 <213> ORGANISM: Drosophila melanogaster
107 <400> SEQUENCE: 5
108 atttgtgcgc cttgccagct ctaaaaccag caatacttct catttgttgt cggttgtgaa      60
110 aagtgtgtaa atgtgctgtg cgtattttta tagttagttag agaactgtac aagtttttagc      120
112 taaaggcagc agacgcgtgg ggcacgtaca agtcgaaaat tgtagtgacac cgcctcgtgt      180
114 atcgccctgca acatagagtt ttgccgcact tcggttgctg gcggcagcaa gaaaaggcca      240
116 caaatacttg gcaatttttt aaccaggtaa gcagaaagtg ctgaatcata atcgtagaat      300
118 tggctgtacc gtagaaccta agagccctgt ctaattaatc ctttaatatg atggatatag      360
120 caatttttcg gtggcgtcgc ttgcaaatta aaaatggcga tacccggtat agacatttag      420
122 ctaatttttg gccttttaaa accatagttt ttgattttt tagcgcggag cgcctgatgt      480
124 aggccatgaat ttgtttacta taaagtgaac cccctcgaag aaccttaata ggaaataata      540
126 aatagccggt gactaccggc aacgcccatt aacacgcaca cttaac                                         585

129 <210> SEQ ID NO: 6
130 <211> LENGTH: 408
131 <212> TYPE: DNA
132 <213> ORGANISM: Drosophila melanogaster
134 <400> SEQUENCE: 6
135 gcttagatga tgattcagtg gagaagctcg gcgtcggatt gtggtctact ccgaacttga      60
137 gaagcggcgg agcttggggg ttgaccccat ttgtttatac ggccctctcg agccggcgctc      120
139 gttgtcaatt atcggtttta ccatgtcgca ccgcgggggc cagtggcaat taattaattc      180
141 aatcgcttca attgactcgc tatcgctgtt aggaacggct ttaatcgctg taattcaata      240
143 aacatttctc gctctctctt cccatcgagc ccaaaatcgg aatcttctat gtggccttct      300
145 acggagtcct agccgccctc gttgccatct gcatgtgggc cttcttccaa actctcgatc      360
147 ctgcgattcc caagtggacc ctggaccggt ccctgatagg taaaaatc                                         408

150 <210> SEQ ID NO: 7
151 <211> LENGTH: 540
152 <212> TYPE: DNA
153 <213> ORGANISM: Drosophila melanogaster
155 <220> FEATURE:
156 <221> NAME/KEY: misc_feature
157 <222> LOCATION: (1)..(540)

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/070,496

DATE: 08/14/2002

TIME: 09:06:05

Input Set : A:\9013-44.ST25.txt

Output Set: N:\CRF3\08142002\J070496.raw

```

158 <223> OTHER INFORMATION: n = ambiguous/unknown nucleotide
161 <400> SEQUENCE: 7
162 cgacgggacc accttatggt attatatgag ctgaaccata cttttttcga taaccgaatt      60
164 atcccaaact tatcgggtgc agcttataag agttgcacac cgtccggata cttagctcac      120
W--> 166 catactnnnt ttacattggt atgaccacag tgactgcaag cccactaccg attattcatc      180
168 gagactttat cgccaactgc ttcatgcgcc tctacaaaac cccccgctac actcagacta      240
170 gggctactcat agacacccta ggctgagacc gactgaaggc accttactgc cgaatgtcct      300
172 tggcatgata ggttcccaca actcgtcctt ggaggtcttc cggcgcgtaa tacgcgttgc      360
174 cgatcttctt ccgaagtgcg gatatttatga acgtcggtec aaacttggcg ttataaccag      420
176 tttgaaagca gcttggtctt aaattccggc gataaacttc ttggccttcg acaaacgata      480
W--> 178 ccatacgaga acngatatta tatctcttct cgntctcgnt gggcttactt ctcatctgac      540
181 <210> SEQ ID NO: 8
182 <211> LENGTH: 267
183 <212> TYPE: DNA
184 <213> ORGANISM: Drosophila melanogaster
186 <400> SEQUENCE: 8
187 gtctgtacga caagttcggg ttggacaaga acacgcagga cttcaccggc caccgacctgg      60
189 ccccttttcg cgacgatgag tatctgaacg agccggccgt gaacaccatc cggcgggatta      120
191 agctctactc cgattcgctg gcgcgttacg gcaagtcgcc ctacctttat cccatgtacg      180
193 gcctgggtga gctgccccag ggattcgcac gtctgtcggg catctacggc ggcacctaca      240
195 tgcttgacaa gcccatcgac gagattg      267
198 <210> SEQ ID NO: 9
199 <211> LENGTH: 583
200 <212> TYPE: DNA
201 <213> ORGANISM: Drosophila melanogaster
203 <400> SEQUENCE: 9
204 cgatactctt tggcgctacc acgagatagc agggctgccg aaacatcgat tgctgcatta      60
206 togattgtgc ttgcgaacat catcgatttg ttccaggcca aaaacgttat tatgttataa      120
208 tatattttata ataattaatt aagtataaat taaagactta aattaatttt taaattgtaa      180
210 acgtattttt cacaaatgta aatgtacgat agtacaaatt agtttaaatt atagagcatg      240
212 gagtgacctc cactgatcgc gttaccaaca atttttttta aataaatttg agcttgacat      300
214 attcgcgctc ttgatcctta tacagttaa gcaacaatt gatcaattaa aaaatcatca      360
216 tctcaattct ttcgtagtat tattcataca gacaattatt gtattaccaa tttttccctt      420
218 ttttagtttac acctacgcca ctcagtgtta taataaaagg tttgcaattc agcacatatt      480
220 ttattggtaa tatatatatt cagcagtata aacagtgccg gccatgccgg ccattcatga      540
222 agaatttaac caaaactact tacaattggg aaatttgatg gca      583
225 <210> SEQ ID NO: 10
226 <211> LENGTH: 480
227 <212> TYPE: DNA
228 <213> ORGANISM: Drosophila melanogaster
230 <400> SEQUENCE: 10
231 gtttattgtg ttttcaaacg tgaagtagtg aacgtgaact ttagtgaaac ccaaatacgga      60
233 gatggctcgt accaagcaaa ctgctcgcaa atcgactggt ggaaaggcgc caccgcaaaca      120
235 actggctact aaggccgctc gcaagagtgc tccagccacc ggaggtgtga agaagccaca      180
237 cgcctatcgc cctggaaccg tggccttgcg tgaaattcgt cgctaccaa agagcaccga      240
239 gcttctaate cgcaagctgc ctttccagcg tctggtgcgt gaaatcgctc aggactttaa      300
241 gacggacttg cgattccaga gctcggcggt tatggctctg caggaagcta gcgaagccta      360
243 cctggttggt ctcttcgaag ataccaactt gtgtgccatt catgccaa gcgtgcaccat      420
245 aatgcccaaa gacatccagt tagcgcgacg cattcttagg ccatcgtgct taagctgaca      480

```

RAW SEQUENCE LISTING

DATE: 08/14/2002

PATENT APPLICATION: US/10/070,496

TIME: 09:06:05

Input Set : A:\9013-44.ST25.txt

Output Set: N:\CRF3\08142002\J070496.raw

```

248 <210> SEQ ID NO: 11
249 <211> LENGTH: 542
250 <212> TYPE: DNA
251 <213> ORGANISM: Drosophila melanogaster
253 <400> SEQUENCE: 11
254 ggccatggcg cctttttcct ttctgcctt ccgtgccctt cgtgcggctt cgtcatcaca      60
256 accggacgga ttctgtttcg gctgacgaac cggatcgagc atacttcggc cgttggtttt    120
258 ttcgacttcc atggcatctg gtcgttaggc cagccgttca ttccggcaacg aacccccgac    180
260 atagaagcac gtcagcatgt ggcacaaccg gagaaagtag gaaaaacaaa cggagtagag    240
262 gaaaagccca acaaaaaaaaa aaaacgaacg acggccaggg aaaaatgcc aaaaacctgg    300
264 tggaaaaagt tcctaaccat tctattgaga cgcaaggagt gcttaggatac aagtgttttg    360
266 tgtaagcaac gaggcctgta ccagtgtcac catgtgcata tataccatcg aaacatagac    420
268 aaactggcct ggactgttgc gccagagatt tgggtggtgtg aatgggtcat tcggggaaat    480
270 ggtccctttg ctgaaaaaaa ggccttttca ggcttcgaca tttttacgta atggacgatt    540
272 ac
275 <210> SEQ ID NO: 12
276 <211> LENGTH: 409
277 <212> TYPE: DNA
278 <213> ORGANISM: Drosophila melanogaster
280 <400> SEQUENCE: 12
281 gattgttggt ctcgtttcgg atttatagct agatttttaa caataagggc tggatatatt      60
283 aaattgaaca aatgtgatgg agacatgtta attaaactag atcacaataa caagaaaatt    120
285 gctttaaatt aagatagaat aaacacataa atcaacattt ttgcaaggac aatacttttc    180
287 agataaacatt tagctgattg ttccgaaact cagttccacc tctgattttg tgctggtgag    240
289 aatgttgctg ctgttcagca gcccgttttt actgcaaaat tgcaacaaaa tcgaatgaaa    300
291 aggccctaaa ttggacttca agcagctaac gcatccaccc aaggtgccac agacaccag    360
293 tggactccga agtttccgac accagcgcct tcgaaatcca gatcgacac      409
296 <210> SEQ ID NO: 13
297 <211> LENGTH: 507
298 <212> TYPE: DNA
299 <213> ORGANISM: Drosophila melanogaster
301 <220> FEATURE:
302 <221> NAME/KEY: misc_feature
303 <222> LOCATION: (1)..(507)
304 <223> OTHER INFORMATION: n = ambiguous/unknown nucleotide
307 <400> SEQUENCE: 13
308 gtatggtggg agaattggaa gggtgacaca catgaaaaag tgttggtagc cacatgataa      60
W--> 310 atcaaatattg ataagataag aaaagctaaa taaaacaatt atccannnga ccaacttaag    120
312 gtatgcccg c tgggtgtgta cttggacagc ctgatcactg gtttcgtagt cctttagggg    180
314 cttatcctga aggccttagg accggctggt tctcgtatat atccgtttca ctgcagtgtg    240
316 agttaagtag ttgccggcga gagagacaac gatatccac ctggtattcc tgatatgcaa    300
318 ccaaatagga aaatgattga cttcgcaagg atgacagcag cagtaggaac aggaaccggt    360
320 tatgttttct tgccatctcc ctctactca ccttggtccg tgcaccaagc cgcattccag    420
322 atgagcggat aaacatcttt cgcagctgct gcgtgcctgc actgatcatc tgcgtaaaag    480
324 aaatggcgat acaaatccg ttatgtc      507
327 <210> SEQ ID NO: 14
328 <211> LENGTH: 432
329 <212> TYPE: DNA
330 <213> ORGANISM: Drosophila melanogaster

```

RAW SEQUENCE LISTING

DATE: 08/14/2002

PATENT APPLICATION: US/10/070,496

TIME: 09:06:05

Input Set : A:\9013-44.ST25.txt

Output Set: N:\CRF3\08142002\J070496.raw

332 <400> SEQUENCE: 14

```

333 atcgggagcc actcagtagc gggcgtctcc attgcagcgc cagatataaa cacaagcgat      60
335 cggcgtcatc atcgtcagcg gggacaactt catccggaca caaggaccgc aggtaaagt      120
337 gtacacacat atgtgagacg accctaaacg atacctcttt tgacatgaag catcgagtag      180
339 ttttgactgg cagtttgaa aaaaggttca actgtcatag ggccctttca tttggatttg      240
341 cccctcagc cgattcagct ggtgctcttg ccaagaaagt taaaaccaa aatcattcaa      300
343 gccgatttca tttcattgga agaaaccaac caaccaacca accaaccaac gaacatcact      360
345 atgtaagaac ccaccgaagc aatcattttc attctacgtc cactaccaa gaatttgcc      420
347 gaaagaggtc ga                                     432

```

350 <210> SEQ ID NO: 15

351 <211> LENGTH: 439

352 <212> TYPE: DNA

353 <213> ORGANISM: Drosophila melanogaster

355 <220> FEATURE:

356 <221> NAME/KEY: misc_feature

357 <222> LOCATION: (1)..(439)

358 <223> OTHER INFORMATION: n = ambiguous/unknown nucleotide

361 <400> SEQUENCE: 15

```

362 gtatagatcg agtgaaact cgttataata tgtacataac gatgccttat ttattttaca      60
W--> 364 ggtaacttc accgtcgagc agatccgtgg cctcatggnn nacatccgca acatgtctgt      120
366 gattgccccg tagaccacgg caagtcact ctgaccgatt cccttgtgtc gaaggctggt      180
368 tattggcagg agccaaggct ggtgagactc gtttactga caccgcaag gacgagcagg      240
370 agcgctgcat taccatcaag tcgacgtaag accagtcagt ttccagcacc caggctttt      300
372 ttaataagct ttcttttttg cgtggttttc ctgttatttg aggtggagga aaaggatctt      360
374 ggtgttgatt taccacccgg ttagcgcgag aaggagtgca aagggtttcc tgatcacttt      420
376 gatcgattgc ccggttcac                                     439

```

379 <210> SEQ ID NO: 16

380 <211> LENGTH: 532

381 <212> TYPE: DNA

382 <213> ORGANISM: Drosophila melanogaster

384 <400> SEQUENCE: 16

```

385 atcgagcgag tgcgatacga aaacaaaagc cgagcgccgc tccaataaaa gttcagttgg      60
387 cgctacgtaa acaactttg cggttagtct gcatctgggg tgtccagaac gaccggttct      120
389 ttcgtaggc actaatga acttggaat caaacggcta gttatcagca acgattaagc      180
391 actagcgttc aaggtacttc tggggttaa ataaactcca tttatcagtg tacatcgatt      240
393 aacaaacagt gcacaaaatg acgccaatg ttaaggacga tggtgactgg agagtatccg      300
395 gaatatccag aaattacccg agctatcgcc agcatcgacc gattaccagt gaaagggttg      360
397 catcgaatat acccataaat ttcaaattaa ttaataaaaa ctacatattt acattttctc      420
399 ttgtcagct ggctggaggg gaaaaatgta gatgacgaag ccgaaggctt ttggcgaatt      480
401 aacgatcgct ctacgactta agcgactttg ccggtcgctc cgggtggggtc at          532

```

404 <210> SEQ ID NO: 17

405 <211> LENGTH: 536

406 <212> TYPE: DNA

407 <213> ORGANISM: Drosophila melanogaster

409 <400> SEQUENCE: 17

```

410 atcggtgcaa taaaacagc gagtcgcgaa aaagaagcgc aaagcgaacg gaaccaataa      60
412 gaacagccaa acgcaaagag agctcctgc acacacacgc acacagcagg ctgaagcaga      120
414 cccacacaca cgatacact agtcggtgt gtatacgact ggaaaactag gcggtggtaa      180
416 atgtgaagct gaaaaaagct gaaaaaagg aaaaggaaaa ctcggtgggtt ggtgggtggc      240

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/070,496

DATE: 08/14/2002
TIME: 09:06:06

Input Set : A:\9013-44.ST25.txt
Output Set: N:\CRF3\08142002\J070496.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:7; N Pos. 127,128,129,493,513,519
Seq#:13; N Pos. 106,107,108
Seq#:15; N Pos. 99,100,101
Seq#:119; N Pos. 103,104,105
Seq#:121; N Pos. 102,103,104
Seq#:124; N Pos. 511
Seq#:126; N Pos. 97,98,99
Seq#:127; N Pos. 100,101,102
Seq#:128; N Pos. 98,99,100
Seq#:129; N Pos. 100,101,102
Seq#:130; N Pos. 99,100,101
Seq#:131; N Pos. 98,99,100
Seq#:233; N Pos. 97
Seq#:339; N Pos. 479
Seq#:387; N Pos. 499
Seq#:396; N Pos. 423,851
Seq#:441; N Pos. 99,100,101
Seq#:461; N Pos. 28
Seq#:509; N Pos. 414,427
Seq#:540; N Pos. 445,446,447,448,449
Seq#:599; N Pos. 303,304,308
Seq#:650; N Pos. 482
Seq#:774; N Pos. 68,69
Seq#:799; N Pos. 100,101,102,427
Seq#:807; N Pos. 106,107,108
Seq#:809; N Pos. 104,105,106
Seq#:810; N Pos. 100,101,102
Seq#:811; N Pos. 101,102,103
Seq#:814; N Pos. 104,105,106
Seq#:875; N Pos. 433,435,456,503,566

VERIFICATION SUMMARY

DATE: 08/14/2002

PATENT APPLICATION: US/10/070,496

TIME: 09:06:06

Input Set : A:\9013-44.ST25.txt

Output Set: N:\CRF3\08142002\J070496.raw

L:166 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:120
L:178 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:480
L:310 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:60
L:364 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:60
L:2788 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:119 after pos.:60
L:2848 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:121 after pos.:60
L:2949 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:124 after pos.:480
L:2993 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:126 after pos.:60
L:3024 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:127 after pos.:60
L:3057 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:128 after pos.:60
L:3090 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:129 after pos.:60
L:3121 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:130 after pos.:60
L:3156 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:131 after pos.:60
L:5498 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:233 after pos.:60
L:7834 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:339 after pos.:420
L:9100 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:387 after pos.:480
L:9337 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:396 after pos.:420
L:9351 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:396 after pos.:840
L:10566 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:441 after pos.:60
L:11014 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:461 after pos.:0
L:12022 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:509 after pos.:360
L:12024 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:509 after pos.:420
L:12721 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:540 after pos.:420
L:14086 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:599 after pos.:300
L:15265 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:650 after pos.:480
L:18791 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:774 after pos.:60
L:19486 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:799 after pos.:60
L:19498 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:799 after pos.:420
L:19696 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:807 after pos.:60
L:19740 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:809 after pos.:60
L:19771 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:810 after pos.:60
L:19802 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:811 after pos.:60
L:19875 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:814 after pos.:60
L:21248 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:875 after pos.:420
L:21250 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:875 after pos.:480
L:21252 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:875 after pos.:540